

3.3.7.8 Southern Mesic Forest

3.3.7.8.1 Community Overview

This upland forest community occurs on rich, well-drained loamy soils, mostly on glacial till plains or loess-capped sites south of the tension zone. The dominant tree species is sugar maple, but basswood, and near Lake Michigan, American beech may be co-dominant. Many other trees are found in these forests, including those of the walnut family, ironwood, red oak, red maple, white ash, and slippery elm. The understory is typically open, or sometimes brushy with species of gooseberry on sites with a history of grazing, and supports fine spring ephemeral displays. Characteristic herbs are spring-beauty, trout-lilies, trilliums, violets, bloodroot, blue cohosh, mayapple, and Virginia waterleaf.

Historically, southern mesic forests were quite common throughout southern Wisconsin. For example, forests dominated by sugar maple or beech occupied 41% of the Southern Lake Michigan Coastal, 25% of the Southeast Glacial Plains, and 18% of the Western Coulees and Ridges Ecological Landscapes (Finley 1976). Most of these forests were cleared for agriculture, as the soils are very fertile.

3.3.7.8.2 Vertebrate Species of Greatest Conservation Need Associated with Southern Mesic Forest

Twenty-four vertebrate Species of Greatest Conservation Need were identified as moderately or significantly associated with southern mesic forest (Table 3-162).

Table 3-162. Vertebrate Species of Greatest Conservation Need that are (or historically were) moderately or significantly associated with southern mesic forest communities.

<i>Species Significantly Associated with Southern Mesic Forest</i>
Birds
Acadian Flycatcher
Wood Thrush
Louisiana Waterthrush
Kentucky Warbler
Hooded Warbler
Herptiles
Four-toed Salamander
Black Rat Snake
Timber Rattlesnake
<i>Species Moderately Associated with Southern Mesic Forest</i>
Birds
Red-shouldered Hawk
Yellow-billed Cuckoo
Veery
Blue-winged Warbler
Cerulean Warbler
Worm-eating Warbler
Herptiles
Pickerel Frog
Wood Turtle
Blanding's Turtle
Ornate Box Turtle
Bullsnake
Mammals
Water Shrew
Northern Long-eared Bat
Eastern Red Bat
Woodland Jumping Mouse
Gray Wolf




In order to provide a framework for decision-makers to set priorities for conservation actions, the species identified in Table 3-162 were subject to further analysis. The additional analysis identified the best opportunities, by Ecological Landscape, for protection, restoration, and/or management of both southern mesic forest and associated vertebrate Species of Greatest Conservation Need. The steps of this analysis were:

- Each species was examined relative to its probability of occurrence in each of the 16 Ecological Landscapes in Wisconsin. This information was then cross-referenced with the opportunity for protection, restoration, and/or management of southern mesic forest in each of the Ecological Landscapes (Tables 3-163 and 3-164).
- Using the analysis described above, a species was further selected if it had both a significant association with southern mesic forest and a high probability of occurring in an Ecological Landscape(s) that represents a major opportunity for protection, restoration and/or management of southern mesic forest. These species are shown in Figure 3-39.

Table 3-163. Vertebrate Species of Greatest Conservation Need that are (or historically were) *significantly* associated with southern mesic forest communities and their association with Ecological Landscapes that support southern mesic forest.

Southern Mesic Forest Ecological Landscape grouped by opportunity for management, protection, and/or restoration of this community type	Birds (5)*					Herptiles (3)		
	Acadian Flycatcher	Wood Thrush	Louisiana Waterthrush	Kentucky Warbler	Hooded Warbler	Four-toed Salamander	Black Rat Snake	Timber Rattlesnake
MAJOR								
Western Coulee and Ridges								
IMPORTANT								
Central Lake Michigan Coastal								
Central Sand Plains								
Southeast Glacial Plains								
Southern Lake Michigan Coastal								
Southwest Savanna								
Western Prairie								
PRESENT (MINOR)								
Central Sand Hills								
Forest Transition								
Northern Lake Michigan Coastal								

Color Key

-  = HIGH probability the species occurs in this Ecological Landscape
-  = MODERATE probability the species occurs in this Ecological Landscape
-  = LOW or NO probability the species occurs in this Ecological Landscape

* The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.

Table 3-164. Vertebrate Species of Greatest Conservation Need that are (or historically were) *moderately* associated with southern mesic forest communities and their association with Ecological Landscapes that support southern mesic forest.

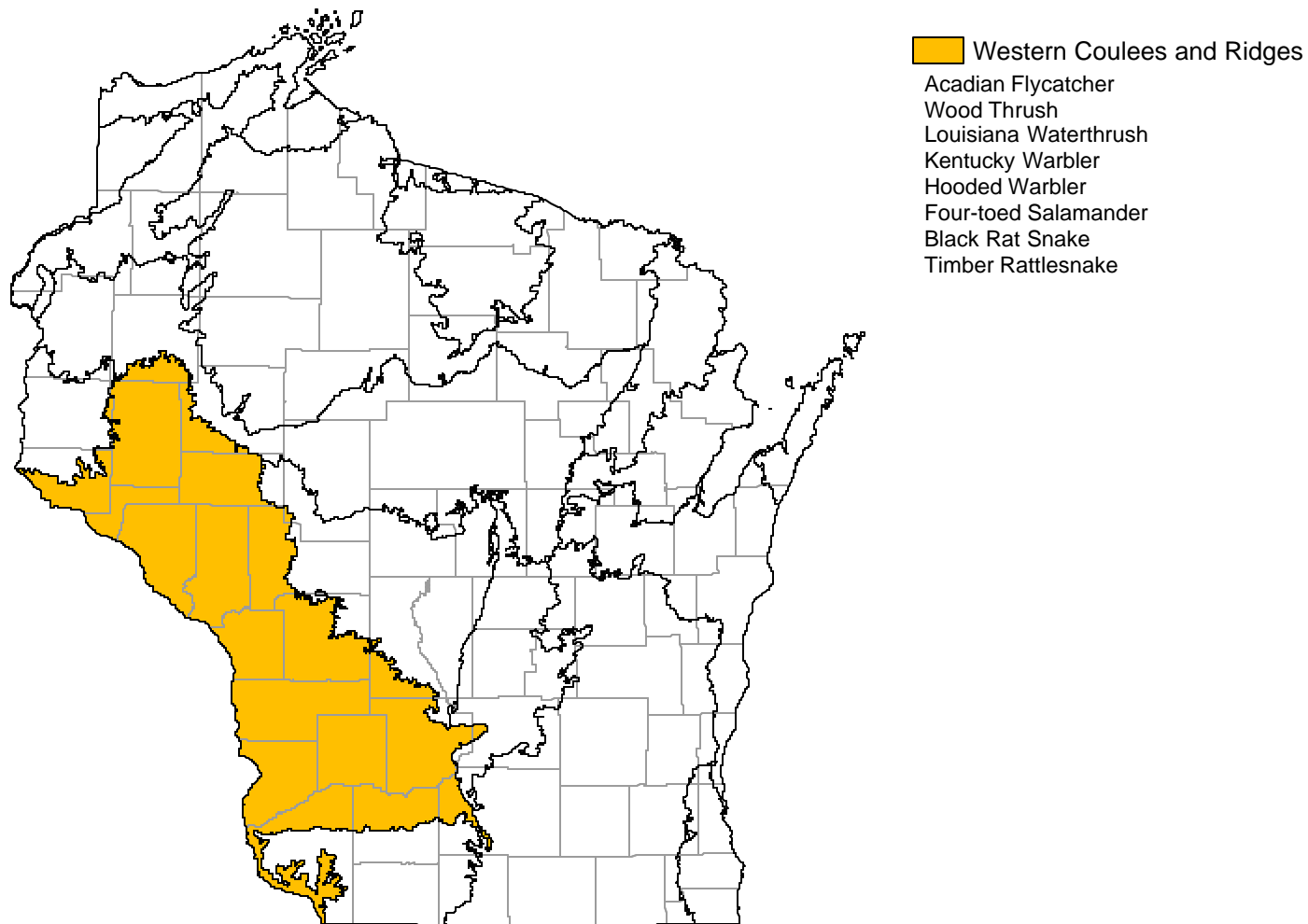
Southern Mesic Forest	Birds (6)*						Herptiles (5)					Mammals (5)				
	Red-shouldered Hawk	Yellow-billed Cuckoo	Veery	Blue-winged Warbler	Cerulean Warbler	Worm-eating Warbler	Pickered Frog	Wood Turtle	Blanding's Turtle	Ornate Box Turtle	Bullsnake	Water Shrew	Northern Long-eared Bat	Eastern Red Bat	Woodland Jumping Mouse	Gray Wolf
MAJOR																
Western Coulee and Ridges																
IMPORTANT																
Central Lake Michigan Coastal																
Central Sand Plains																
Southeast Glacial Plains																
Southern Lake Michigan Coastal																
Southwest Savanna																
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PRESENT (MINOR)																
Central Sand Hills																
Forest Transition																
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Color Key

 = HIGH probability the species occurs in this Ecological Landscape
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* The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.

Figure 3-39. Vertebrate Species of Greatest Conservation Need that have both a significant association with southern mesic forest and a high probability of occurring in an Ecological Landscape(s) that represents a major opportunity for protection, restoration and/or management of southern mesic forest.



3.3.7.8.3 Threats and Priority Conservation Actions for Southern Mesic Forest

3.3.7.8.3.1 Statewide Overview of Threats and Priority Conservation Actions for Southern Mesic Forest

The following list of threats and priority conservation actions were identified for southern mesic forest in Wisconsin. The threats and priority conservation actions described below apply to all of the Ecological Landscapes in Section 3.3.7.8.3.2 unless otherwise indicated.

Threats and Issues

- Past conversion to agriculture has diminished the extent of this community type, which limits future management options.
- Of the remaining forests, older age-classes are lacking.
- Woodlots are fragmented and isolated by farmland and rural housing.
- Land use planning that is not comprehensive and does not emphasize conservation considerations can lead to development in locations that limit options for this community.
- Changes in forest composition and structure are occurring due to forest management practices, grazing, and invasive species, resulting in increasing dominance of red maple, boxelder, and ironwood.
- Invasives are a major problem in some areas and may limit regeneration (e.g., buckthorns, garlic mustard).
- Grazing is removing understory and regeneration, and encourages the spread of invasive species.
- High deer densities may be affecting regeneration of some species and shifting composition.

Priority Conservation Actions

- Maintain larger blocks of this type where present.
- Maintain a component of oak species within this type where feasible and appropriate.
- Use other forest types to buffer and maintain contextual continuity, limit edge effects, and maximize benefits for area sensitive species.
- Use Best Management Practices and other sustainable forest community management practices.
- Reduce deer density.
- Continue and support research to find biocontrols for invasives, and use management techniques that limit the spread of invasives.

3.3.7.8.3.2 Additional Considerations for Southern Mesic Forest by Ecological Landscape

Special considerations have been identified for those Ecological Landscapes where major or important opportunities for protection, restoration, and/or management of southern mesic forest exist. Those considerations are described below and are in addition to the statewide threats and priority conservation actions for southern mesic forest found in Section 3.3.7.8.3.1.

Additional Considerations for Southern Mesic Forest in Ecological Landscapes with **Major** Opportunities for Protection, Restoration, and/or Management of Southern Mesic Forest

Western Coulees and Ridges

Operations on steep slopes can cause rutting, soil erosion, and contribute to hydrologic changes such as overland flow. Large blocks of this type should be maintained where present (e.g., Baraboo Hills, Lower and Middle Kickapoo Watershed, Lower Wisconsin Riverway). Sauk, Richland, and Vernon counties contain the larger blocks. Significant areas (due to species composition) include those south of the

Wisconsin River in Grant County, where dolomite bedrock occurs. Floristically these forests are often very rich and support species not common in the rest of the Ecological Landscapes.

Additional Considerations for Southern Mesic Forest in Ecological Landscapes with **Important** Opportunities for Protection, Restoration, and/or Management of Southern Mesic Forest

Central Lake Michigan Coastal

Large blocks of this type should be maintained where present along the lower Wolf River. Sites in the southeast where beech is a co-dominant should also be maintained.

Central Sand Plains

This type should be embedded within large blocks of other forest types that are more common in this Ecological Landscape.

Southeast Glacial Plain

Past land clearing for agriculture has reduced and fragmented this community type, resulting in edge effects and isolation. Forests are being cleared for development as urban areas expand and residents seek solitude by developing housing in remaining rural areas.

Larger blocks of this type should be maintained where present (e.g., North Unit Kettle Moraine, where the type is mixed with dry-mesic forests). A component of beech and oak species should also be maintained within this type where appropriate and feasible. This community type is often found in association with outcrops of the Niagara Escarpment. The Niagara Escarpment is a regionally significant repository of highly specialized rare species (e.g., land snails). It supports microhabitats that do not occur elsewhere, contributing to occurrences of embedded localized community types such as moist cliff. More survey work is needed to document the variability of these communities (i.e., to differentiate between sites in North Kettle Moraine and on the Niagara Escarpment). Millhome Woods in southern Manitowoc County is another large site that supports southern mesic forest.

Southern Lake Michigan Coastal

This type has been severely reduced from its past extent. Manage this type as a complex with other forest types along river corridors (e.g., Root River).

Southwest Savanna

Operations on steep slopes can cause rutting, soil erosion, and contribute to hydrologic changes such as overland flow.

Western Prairie

Urban expansion is occurring within the Western Prairie Ecological Landscape, and housing developments can directly impact this community. Historically this community type occupied a large portion of the eastern part of the Ecological Landscape. Existing forests are scattered; additional fragmentation of existing forests along river corridors should be avoided.